

Classical diffusive dynamics for the quasiperiodic kicked rotor

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We study the classical dynamics of a quasiperiodic kicked rotor, whose quantum counterpart is known to be an equivalent of the 3D Anderson model. Using this correspondence allowed for a recent experimental observation of the Anderson transition with atomic matter waves. In such a context, it is particularly important to assert the chaotic character of the classical dynamics of this system. We show here that it is a 3D anisotropic diffusion. Our simple analytical predictions for the associated diffusion tensor are found in good agreement with the results of numerical simulations.

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